202 Midterm Review

Students should read the objectives and make sure to review concepts and vocabulary found there. Students should review all theorems and postulates for chapters 1-6 in the back of the book, sections R-1 through R-5. Students should do the proofs in the review packet. Students are also encouraged to do the following problems from the textbook as a review.

Page Section Problem #

754 1-1 1 through 7

* 1. 11
  2. 12, 16,21

755 1-5 1 through 9

* 1. 1, 2

756 2-1 8

* 1. 7, 10
  2. 1, 6, 10

757 2-4 1, 3, 4

2-5 4 through 7

* 1. 1 through 3

758 2-7 1 through 8

2-8 2

* 1. 1 through 7

759

* 1. 1 through 8 (#8 mark the 3rd line parallel)
  2. 8, 10
  3. 8, 10

760 3-5 1 through 7

* 1. 1, 2

761 4-2 1 through 10

* 1. 1 through 4

762 4-6 1 through 6

* 1. 5, 6, 7

763

* 1. 1 through 4
  2. 1 through 3

764 5-4 2, 6, 15

5-5 1 through 5

202 MIDTERM REVIEW NONPROOF SOLUTIONS

P.754

**1-1**

1) 8

2) B,O,C or D, M,J

3) planes AFG, ABG,GLK

4) 

5) plane ABC and plane GHK (top and bottom planes of the figure- use any 3 non-

collinear points on each plane to name them)

6) plane FEK

7) line (planes intersect in a line)

**1-2**

11) n = 7, BC = 14

**1-3**

12)  (approx. 13.9)

16) (-1, 4.5)

21) (-28, 8)

**1-5 (questions 1-5 have more than one acceptable answer, a sample is provided)**

1) ∠BGC, ∠FGE

2) ∠BGF, ∠CGE

3) ∠BEC, ∠CED

4) ∠CEF, ∠CED

5) ∠ABE, ∠CBE

6) 135

7) 8

8) 85.5, 94.5

9) 36.5, 53.5

**1-6**

1) quadrilateral, convex, regular, 90m

2) hexagon, concave, irregular, 156 cm

**2-1**

8) False (could have different vertices)

**2-2**

7) A robin is a fish and an acute angle measures less than 90o

10)

|  |  |  |  |
| --- | --- | --- | --- |
| p | q | ~q | p~q |
| T | T | F | T |
| T | F | T | T |
| F | T | F | F |
| F | F | T | T |

**2-3**

1) hypothesis: no sides of a triangle are equal

conclusion: it is a scalene triangle

6) If a triangle has two equal sides, then it is an isosceles triangle.

10) Original Conditional: If two angles are congruent angles, then they have the

same measure. T

Converse: If two angles have the same measure, then they are

congruent. T

Inverse: If two angles are not congruent angles, then they do not

have the same measure. T

Contrapositive: If two angles do not have the same measure, then they

are not congruent angles. T

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**2-4**

1) If it rains, then the game will be cancelled. (by Law of Syllogism)

3) yes (Law of Detachment)

4) invalid

**2-5**

4) If 2 points lie in a plane, then the entire line containing those points lies

in that plane.

5) Through any two points, there is exactly one plane.

6) Through any three points not on the same line, there is exactly one plane.

7) Through any 2 points, there is exactly one line.

**2-6**

1) Addition Property

2) Transitive Property

3) Symmetric Property

**2-7**

1) Addition Property

2) Symmetric Property

3) Transitive Property

4) Substitution

5) Reflexive Property

6) Subtraction Property

7) Addition Property

8) Transitive Property

**2-8**

2) m∠11 = 60, m∠12 = 30, m∠13 = 90

**3-1**

1) 

2) planes ABM, OCN, ABC, LMN, AEP

3) 

4) consecutive interior

5) corresponding

6) alternate interior

7) alternate exterior

**3-2**

1) 102 2) 72 3) 102 4) 78 5) 108 6) 72

7) x = 10, y = 12 8) x = 12, y = 65 (There is a book error the 3rd line is also parallel)

**3-3** 8) parallel 10) perpendicular

**3-4** 8) y = x – 3 10) 

**3-5**

1) c||d If alternate exterior angles are congruent, then the lines are parallel.

2) None

3) c||d If alaternate interior angles are congruent, then the lines are parallel.

4) c||d If consecutive interior angles are supplementary, then the lines are parallel.

5) 15

6) 40

7) -2

**3-6** 1) Draw the perpendicular from P to.

2) Draw the perpendicular from J to the line containing .

**4-2**

1) 60 2) 60 3) 55 4) 120 5) 94

6) 86 7) 94 8) 86 9) 52 10) 24

**4-3**

1) 

2) 

3) 

4) 

**4-6**

1) ∠DAB ≅ ∠DBA 2) ∠FBG ≅ ∠EGB 3) ∠BEF ≅ ∠BGE

4)  5)  6) 

**4-7**

5) A(0,b) ; B(-a,0) 6) F(-b,b) 7) G(-a-2,0) ; I(0,b)

**5-2**

1) m∠TPS > m∠TSP 2) m∠PRZ > m∠ZPR

3) m∠SPZ < m∠SZP 4) m∠SPR = m∠SRP

**5-3**

1) ∠ABC ∠XYZ

2) An angle bisector of an equilateral triangle is not a median.

3) does not bisect ∠ARC.

**5-4**

2) yes 6) no 15) 27<n<31

**5-5**

1) XZ > OZ 2) m∠ZIO < m∠ZUX 3) m∠AEZ = m∠AZE

4) IO < AE 5) m∠AZE > m∠IZO